Minutes Of The October 8 and 9, 2003
WSR-88D System Recommendation and Evaluation Committee (SREC) Meeting
Final Version, Approved 22 April 2004

Opening Executive Session, 8 October.

The following triagency personnel participated in the opening executive session:

SREC Chairperson	Rich Vogt
SREC Executive Secretary	Tim Crum
NWS Voting Member	Bob Saffle
NWS Alternate Members	Chris Dietz, Warren Blanchard, and Pete Pickard
DOD Voting Member	Mike Spaulding
DOD Alternate Member	Major David Beberwyk
FAA Voting Member	Dennis Roofe
FAA Alternate Members	Bill Bumgarner and Cam Tidwell
NPI Project	Roger Hall
ROC Support Staff	Cheryl Stephenson, Bill Armstrong

The participants in the remainder of the SREC are listed in Attachment 1.

Rich Vogt began the executive session with a discussion of the meeting objectives: (1) Approve draft minutes from the April 2003 SREC; (2) Provide the NPMC recommendations in regard to Dave Whatley's July 2003 request to the NPMC and in regard to the SAIC recommendations for changing the ROC software release process; (3) Develop the recommended RPG Build 6 content and release date for NPMC approval; and (4) Develop targeted content and release dates for RPG builds 7-9 and the accompanying ORDA builds.

The SREC approved the July 11, 2003 version of the minutes from the April 2003 SREC meeting. The SREC members agreed with Bob Saffle's comments that the RPG software process is working well and continues to improve.

Opening General Session, 8 October.

Rich Vogt opened the session by stating the SREC meeting objectives. He then stated the primary objective of the general session was to obtain the technical information on the proposed software changes in order for the SREC members to make informed decisions on the timing of integrating software into the RPG and the Open RDA (ORDA). The general session consisted of a series of invited topics and technical summaries of the proposed algorithms and changes. The technical summaries were documented in the SREC Algorithm Process Checklist the presenters provided in advance and posted at: ftp://ftp.roc.noaa.gov/Pub/Srec in lieu of briefing slides. Below is

a brief summary of the presentations and discussions that ensued.

1. **Previous SREC Meeting Action Item Status Review.** Many action items were flagged for discussion and closure during this review. The action items in Attachment 2 are the ones from previous meetings open at the start of this SREC and the new action items assigned during this meeting. Tim Crum will provide the SREC members and action officers periodic updates on the status of the action items. When action officers close an action item, please send the closure information through Tim.

2. **Bill Armstrong, ROC. Contents and Status of RPG Build 5.** The Build 5 system test began on schedule in September. ROC Software Engineering provided an engineering drop of Build 5 to the ORDA Project in July, on schedule. Over 90 configuration change requests (CCRs) are included in Build 5. Build 5 is the largest and most ambitious of the software builds for the Open RPG. The build is proceeding on schedule toward release by the end of March 2004.

3. **Bill Armstrong, ROC. Update On RPG System Usage.** Bill stated that ROC Software Engineering had not yet completed the full-load performance test with Build 5. They plan to provide the results of this test, using new performance measurement tools, soon and have the results available in early December. (Action Item 1003-1). Early indications using Build 5 continue to indicate a need for an RPG upgrade/expansion by Build 8. In addition, ROC Software Engineering continues to have a concern about the resource consumption of the MIGFA. As a result, software engineering has informally been exploring how the Master System Control Function (MSCF) and Base Data Distribution System (BDDS) processors could be used to process the MIGFA in a distributed processing approach. The FAA is interested in another processor for MIGFA- could be another SUN Blade, PC, or use of the BDDS and/or MSCF.

4. **Bill Armstrong, ROC. Preparing For RPG Port To A PC LINUX Platform.** There was great interest in this presentation since it appears this approach will be the next RPG processor. Steve Smith, ROC Software Engineering, stated there is work to accomplish for PC LINUX to support external communications (specifically X.25 needs to be ported to LINUX). While DOD will be TCP/IP by 30 September 2004, AWIPS will still have some X.25 dial-in lines after frame relay is installed in 2004. The FAA will require X.25 through at least Build 8. Based on needs for Common Operating Development Environment (CODE), Lincoln Laboratory, and other users, the triagencies are interested in a three-phased approach for this development of the PC/LINUX environment:

(1) A processor, without external communications capability, for Lincoln Labs and others' use;

(2) A stable PC-version suitable to support CODE users; and
(3) The full-up/operational version that can be deployed for operational use.

ROC Software Engineering and Configuration Management will need to become knowledgeable on LINUX to support this transition. This training will be done incrementally as support for current field operations and software build processes continue. (Action Item 1003-2) The NWS would like to have any training the ROC receives be made available for NEXRAD agency staff. The MSCF and BDDS will remain on the SUN processor for the immediate future. The ROC is targeting a Build 8 transfer to the LINUX/PC platform. This will require advance planning since the funds for the new hardware are available in FY05, but it will likely be FY06 before all the hardware are received (Build 8 is tentatively scheduled for release on 9/30/05). The ROC will need to work hard in FY04 to examine options and prepare the engineering change proposal (ECP). This engineering work needs to be completed within the next 6 months.

5. **Bill Armstrong (ROC) and Greg Cate (OS&T). ROC Approach To RPG, OPUP and ORDA Build Synchronization.** Bill and Greg stressed that interactions are taking place between the ROC and ORDA Project. Overall, planning for these types of releases will require additional workload and planning for flexibility and may also cause workload “peaks” for many ROC functional areas. However, the efficiency and cost savings can be realized in the area of formal testing, leading to an overall potential savings in cost and risk reduction. Since OPUP work is done in ROC Software Engineering, the coordination is being done via Bill Armstrong. Mike Spaulding confirmed that not many OPUP changes are expected.

6. **Major Mike Miller (ROC) and Greg Cate (OS&T). ROC Support To ORDA.** The genesis of this briefing was to assure the triagencies that ROC is planning to provide the required concurrent support for the RPG Build 6 and ORDA testing and deployment support. Recently, a large percentage of the ORDA Project testing has been accomplished at the West Oaks facilities. This has reduced the need for KCRI/KJIM test time. Greg Cate stated that through careful coordination with the ROC and use of existing processes, test bed contention risk is under control. The ORDA Project plans to use ROC Documentation Team and Configuration Management Team processes and resources to accomplish the final preparations for deployment. Contractually, the ROC will perform the System Test. The ROC Radar Operations Team will run the procedures prepared by the contractor and the contractor will write the test report.

7. **Greg Cate, OS&T. Technical Interchange Meeting (TIM) Results.** Greg stated the primary results of the TIM held the prior day:

a. ROC Engineering, NSSL, and the NPI Program recently reviewed the list of 27 possible enhancements from the June 2002 TIM. Due to duplications and other reasons, the list has been reduced to 14 enhancements, plus Dual Polarization. The SREC considered the TIM recommeneded list and assigned target builds (Attachment 3).
b. The FAA requirement for improved data quality continues. The FAA is willing to have a "fly off" of the data quality algorithms produced by Lincoln Lab, Sigmet, and the results of the NCAR-NSSL RV/DQ MOU work. The evaluation should include a hydrology evaluation. The FAA will defer the request for separate data streams at this time. The objective is better data quality that has no/little nonmeteorological returns. Bob Saffle and Greg Cate will lead an effort to examine improvements are adequate to address FAA and OH requirements. (This is an action item from the 7 October 2003 TIM.)
c. With the addition of data compression, the current RDA-RPG T1 connection will have sufficient bandwidth up to dual polarization.
d. The NPI Program has an MOA with NSSL to investigate the use of high-resolution (0.25 km reflectivity and 0.5 degree) data. NSSL will prepare a report by the end of the year on the advantages forecasters will gain through visualizing the data. NSSL will also report on the impact, if any, on recombining the data in the RPG for legacy algorithm use.

8. Agency Perspectives

a. DOD. Mike Spaulding, DOD NEXRAD Program Manager. Mike stated the Air Force is enthused about the ORDA, from the standpoint of increased reliability, lower preventative maintenance inspection times, and improved legacy products. The Air Force has no requirements for new ORDA science and is concerned about proposed ORDA changes that will significantly increase processing loads and size of products.

b. DOT. Bill Bumgarner, FAA NEXRAD Program Office. Bill presented an update on several FAA projects that will lead to future considerations for RPG and RDA enhancements. HRVIL is being field tested at several sites and will have many applications, including at the NWS Aviation Weather Center and in support of the FAA Terminal Convective Weather Forecast system. The WARP contractor will soon complete their report on their test with RPG Build 5 to ensure they will be ready for new volume coverage patterns (VCPs) in Build 5. The FAA plans to go to TCP/IP no earlier than spring 2005 and will have their internal communications backbone in place by November 2004. The FAA is drafting proposed changes to the MOA for the Interagency Operation of the WSR-88D to address operational issues in regard to data quality. The FAA will send the proposed changes to Tim Crum

for triagency consideration. All WARP systems are installed and connected to their associated WSR-88Ds. Up to 5 ITWS systems will be installed this year. This will bring the total installed to 15 with a maximum of 18 systems to be installed. There are three MIAWS installed for prototype operations. These systems will use the HRVIL, EET, and VCP12 features of the WSR-88D. The FAA would like to see new processors in the RPG as more advanced algorithms are ready for implementation. The FAA major interest in ORDA enhancements is faster scanning and improved data quality.

c. DOC. Bob Saffle, NWS Office of Science & Technology. Bob stated the NWS is pleased with how the RPG upgrades are proceeding. The 6-month cycle provides flexibility and is successfully deploying builds without issues. The AWIPS Program has adopted an SREC-like process to define their builds. The importance of new radar capabilities was demonstrated by the fact that 5 of 7 top AWIPS Open Build 3 items are radar related. The NWS list of desired products has not changed from the list presented at the April 2003 SREC, including the Snow Accumulation Algorithm in Build 6.

d. ORDA. Greg Cate, NWS Office of Science & Technology. Greg stated the beginning of the ORDA deployment schedule remains September 2004. The deployments are to be completed in December 2005. The ORDA Project reiterated its preference for a "smaller" and lower risk RPG Build 6 to enable the efficient use of limited ROC resources to conduct concurrent testing of the RPG and ORDA. Future ORDA modifications need to be considered from a system perspective.

e. **ROC Perspectives. Bill Armstrong, ROC Software Engineering.** Bill presented an overview of some of the projects, improvements, and issues ROC Software Engineering will address in the next few builds. Infrastructure changes required for operational and other users' support will be emphasized. Bill listed several proposed items for Build 6, but none are high risk. It is hard to anticipate the security-driven changes, but software engineering will work to get them incorporated. Bill recommends continued work on distributed processing and gearing up his staff for the use of a PC/LINUX platform to ensure readiness for the expected need for additional processing capability by Build 8.

Summary of technical discussions on new science ready for RPG implementation.

1. **David Smalley, Lincoln Laboratory. Data Quality Algorithm (DQA) Improvements.** The DQA algorithm identifies and removes artifacts (constant power function signatures) and anomalous propagation (AP) (clutter) from the reflectivity factor data

stream. This algorithm was provided for Build 3. New and/or additional techniques for the further removal of AP and artifacts are being evaluated for potential incorporation in an upgraded DQA. The upgraded version may also be retrofitted to accept the potential new ORDA "FAA filtered" data stream. David Smalley stated that the improved DQA is targeted for no earlier than RPG Build 7. Lincoln Lab will provide the FAA with information on the benefits of the improved algorithm before requesting insertion into the baseline.

2. **David Smalley, Lincoln Laboratory. Machine Intelligent Gust Front Algorithm (MIGFA).** David Smalley briefed that they plan to implement MIGFA in two phases. Lincoln Lab is performing more MIGFA algorithm field testing at their 8 sites to further tune the parameters and develop the product. Lincoln Lab will continue development in the laboratory of putting the final product into the generic format. The FAA needs MIGFA products for MIAWS and plans to run it to a range of 120 km. MIGFA has not been used with VCP12 yet and has problems with volume restarts. Lincoln Labs wants to run MIGFA with VCP12 data. Bob Saffle reported that AWIPS OB5 is the earliest the NWS would be ready for the MIGFA products. (AWIPS OB6 ~ RPG Build 7 time frame.) Lincoln Lab will maintain the software and will continue on testing MIGFA using WSR-88D input data.

3. **David Smalley, Lincoln Laboratory. High Resolution Enhanced Echo Tops (HREET) Update.** The Enhanced Echo Top algorithm is being implemented in Build 4. Lincoln Lab is researching further improvements to the algorithm. The algorithm will be ready for deployment no earlier than Build 8.

4. **Chris Dietz, NWS OHD. Range Correction Algorithm (RCA) Project Status Briefing.** Chris said the NWS is targeting Build 8 for implementing this algorithm. The implementation will be done in 'C' and will include the Convective Stratiform Separation Algorithm (CSSA). Chris reported that the software is more efficient when running in 'C.' The OHD is planning a field evaluation and will develop a concept of operations by the spring 2004 SREC. They plan to generate the product on the RPG rather than on AWIPS. ROC Applications Branch will provide IV&V on the algorithm later this year.

5. **Mike Istok, NWS OS&T. Mesocyclone Detection Algorithm (MDA) (Phase 2: Tracking & Trend Displays and Rapid Update Capability).** Mike briefed the NWS targets this new algorithm for Build 6. This change enhances the Build 5 Mesocyclone Detection (MD) product and introduces the Digital Mesocyclone (DMD) product. Graphics of past and forecast Mesocyclone positions are being added to the MD product. The DMD product is a rapid update data array product which will be used by external systems (i.e. AWIPS D2D and SCAN) to provide forecasters with interactive display capabilities similar to that prototyped on the NSSL WDSS. These

capabilities include: time-attribute trend display, time-height-attribute trend displays, and interactive icon and attribute displays. The adaptation data will not be on the MSCF screen. It is still TBD whether to have some adaptation data under URC control. These additional tools will enable forecasters to better diagnosis the likelihood of a mesocyclone leading to severe weather or tornadic storms. Hence, the forecasters will be able to issue more timely and accurate warnings of severe/tornadic weather.

6. **Randy Steadham, ROC. Update On Build 5 Testing - VCP 12 Operational Readiness.** Randy reviewed the documentation and training preparation planned to support the use of this new VCP. He also highlighted the results of new testing of VCP12 in a case in comparison with VCP11: VCP12 identified cells, via SCIT, 6 minutes earlier on average; detected more distant storms and circulations; and had longer, more consistent cell tracks. Forecasters will be able to identify storms at greater range and earlier, resulting in greater warning lead times.

Executive Session, 8 October.

This executive session had two primary goals:

1. Discuss the SAIC suggested changes to the software release methodology and prepare a recommended reply for NPMC consideration.
2. Discuss the recommended response to the FAA NPMC member's suggested changes with respect to data quality and prepare a recommended reply for NPMC consideration.

SAIC Suggested Changes Discussion. During the August 2003 NPMC Executive Session the SAIC presented a draft of the "Staffing Review Of The Tri-Agency Radar Operations Center." In the report's section on "Analysis of Functional, Organizational, and Process Alternatives for the ROC" two observations are stated:

1. Management should consider forming a working group or process action team to address incremental builds versus full-build philosophies. The risks, impacts, and costs of standardization across the organization should be analyzed and reported.

   The SREC members agreed this option should not be pursued further. Implementing this option will cause additional load on the ROC staff and test bed resources, and will result in more software releases to operational sites - the sites do not want. In a sense, we are doing incremental builds with 6-month releases. It is just that the field sites don't want to change software more frequently.

2. Management should consider implementing a "new science" build yearly, and continue with the "infrastructure" build every 6 months.

The SREC members recommendation is to not pursue this option. The current process is working smoothly. The frequent and predictable cycle of software releases has led to increased efficiency in the process and faster insertion of new science and capabilities to forecasters.

FAA Data Quality Recommendation. On 23 July 03 Dave Whatley sent an email to the NPMC members in regard to NEXRAD Data Quality Issues (paraphrased below) and requested NPMC comment. At the August 2003 executive session, the NPMC requested the SREC members consider the request and provide recommended actions.

1. The FAA has begun to use WSR-88D data routinely as an advisory tool for the aviation community. Because of this increased visibility, subtle errors from less than perfect data has started to become noticeable by air traffic controllers, who are not meteorologists, viewing for the first time high resolution weather radar data. Although there has been extensive long term efforts by many organizations and individuals to develop procedures and algorithms to detect and remove non-meteorological targets such as anomalous propagation, the methods have not been perfected to the required FAA operational level. In addition, the FAA frequently observes the WSR-88D clutter filter is rarely invoked when it is needed the most (elimination of AP when present).

2. The FAA has been monitoring the research efforts and progress in the improvement of WSR-88D data quality. The FAA believes there is no tri-agency technical oversight to ensure tri-agency requirements are met. Although the ROC has the responsibility for implementing tri-agency approved changes to the ORDA, the FAA feels the ROC should not direct research efforts in this area without tri-agency review, coordination, and oversight.

3. The FAA requests the PMC to authorize and establish a tri-agency committee to oversee data quality improvement activities and report to the PMC with recommendations for modifications or redirections. The committee would review goals, track status, examine funding levels, review milestones and schedules, and provide coordination oversight. Initially this oversight would focus on techniques to separate meteorological and non-meteorological targets but with a follow on look of work in progress for minimizing range folding and velocity aliasing. The group should periodically report to the PMC on status changes and progress being made by the ROC and research facilities. The group would be invited to present technical results of ongoing work at the NEXRAD TAC meetings.

The SREC members discussed these recommendations at great length. In a short summary, the SREC recommends approval of what we considered to be the two major thrusts of Mr. Whatley’s request:

1. The FAA believes there is no tri-agency technical oversight to ensure tri-agency requirements are met. .... the FAA feels the ROC should not direct research efforts in this area without tri-agency

review, coordination, and oversight.

2. The FAA requests the PMC to authorize and establish a tri-agency committee to oversee data quality improvement activities and report to the PMC with recommendations for modifications or redirections.

3. The group should periodically report to the PMC on status changes and progress being made by the ROC and research facilities. The group would be invited to present technical results of ongoing work at the NEXRAD TAC meetings.

The SREC recommends the voting members of the SREC, along with the chairman and executive secretary, serve as the technical oversight committee mentioned in paragraph 2 above. This subgroup of the SREC will meet in conjunction with SREC meetings to review progress on data quality efforts. The committee would either review reports from Memorandum of Understanding (MOU) managers or have the MOU managers present results, progress toward work completion, and work plans in regard to data quality efforts. The committee will prepare recommendations in regard to progress and whether to continue support. The recommendations will be presented to the TAC before coming to the NPMC with a joint recommendation. The committee would review progress in regard to MOUs funded by the triagencies (i.e., ROC, NPI, FAA Program Office, and FAA Aviation Weather Program). Rich Vogt will brief the recommendation during the NPMC executive session on 19 November 2003. Based on the NPMC's action on this recommendation, the SREC Charter may need review.

Opening General Session, 9 October.

Continue technical discussions on new science ready for RPG implementation.

1 **Sallie Ahlert, ROC. Eliminate or Secure Dial Access to RPG/MSCF.** Sallie used the briefing to identify the need for ROC software support in future builds to address evolving dial-in remote access security requirements for the RPG. The NWS CIO has identified the MSCF dial-in capability as not being secure. The ROC obtained a waiver to temporarily continue this capability based on plans to install hardware/software to correct the problem in RPG Build 6. The agencies agreed to review the CCR (03-0095) and provide comments and a decision (eliminate the MSCF dial-in capability or provide the required security safeguards) during the review cycle.

2. **Tim Crum, ROC. Status of Default Precipitation VCP Analysis and Recommendation to NPMC.** Tim briefed the SREC on information he has been collecting to revisit the April 2003 SREC recommendation to not initially change the default precipitation VCP. One of the deciding factors in that recommendation is the DOD concern over communications load shedding for the operational weather squadrons when sites are using VCP12. The NPMC directed this study at the May

NPMC meeting. Using new WSR-88D Hotline System Status Monitor statistics, the annual and diurnal use patterns of differing VCPs has become more apparent. Network wide VCP11 usage is about triple (over 30% on late summer afternoons) what we had estimated (using the annual VCP11 usage average of 9%). The maximum VCP11 usage has increased by about a factor of three since 1996. Tim is working with Mike Istok to ensure the NWS Radar Product Central Collection Service (RPCCDS) is sized to handle the increased load resulting from the four options Tim prepared: (1) no change in default VCP, but allow users to switch to VCP12 when required; (2) allow sites to set the default VCP and allow users to switch to VCP12 when required; (3) direct sites to use VCP11 as the default and allow users to switch to VCP12 when required; and (4) direct sites to use VCP12 as the default. Tim recommended the initial use of Option 1 with the need to obtain metrics on communications/processor impacts of user systems and obtain more definitive information on the VCP12 benefits. The discussion indicated a need for better tracking of communications/processor load at the RPCCDS and at the WSR-88D. ROC Engineering will develop software to monitor and provide statistics for product sizes and bandwidth uses. (Action Item 1003-3) The SREC members want to revisit this issue at each meeting and be brought up to date on new information when it becomes available. The report on mechanical wear affects issued last year should be updated with the new VCP usage data provided at the SREC. (Action Item 1003-4)

3. **Mark Fresch, ROC Applications. Snow Accumulation Algorithm (SAA).** Mark said the ROC Applications Branch is progressing on schedule to implement the SAA and have it ready for integration in Build 6. The TAC recommended the implementation of the algorithm in August 2000. The OPUP will implement a SAA product in Build 6. The AWIPS will implement an SAA product no earlier than OB5, but likely not until OB6 (August 2005 deployment start). Applications Branch will provide follow-on software maintenance. Since the algorithm has not been tested with VCP12, EPRE, and REC the SREC asked the Applications Branch to run the SAA with these conditions and report the results. (Action Item 1003-5).

4. **Mark Fresch, ROC Applications. Storm Cell Identification Tracking (SCIT) Filter.** Mark briefed the status of this enhanced version of SCIT. Greg Stumpf, NSSL, will brief the October TAC to obtain the TAC implementation recommendation. Testing demonstrates a reduction in SCIT tracking error rate with this enhancement. Bob Saffle believes this improvement will be present in VCP12 too. Since the algorithm uses a lot of system resources, Applications Branch needs to provide usage statistics by the next SREC. (Action Item 1003-6) The algorithm should be run with VCP12 data to see if the added increased performance will occur.

Executive Session, 9 October.

The SREC members approved the following RPG Build 6 contents and

release date. The PMC will finalize the RPG Build 6 content and release date of 30 September 2004 recommendation. The SREC members approved the targeted release contents of RPG and RDA builds 7 - 9 as shown in Attachment 3.

TITLE	REQUESTING ORGANIZATION
Snow Accumulation Algorithm (SAA) (New Algorithm & Product)	NWS$
Mesocyclone Detection Algorithm (MDA) - Phase 2 (Tracks & Trend Displays and Rapid Update Capability)	NWS$
Software Changes Needed To Complete Implementation Of NWS Level II Data Collection & Distribution Network	NWS*
Changes To Accommodate FAA Terminal Doppler Weather Radar (TDWR) Data (Ingest of TDWR data in the NEXRAD environment)	NWS*
Changes To Support OPUP Communications Changes	DOD*
Changes Required For ORDA Development and Deployment	ROC*
Security Updates	ROC*
General Software Maintenance	ROC
Save And Restore Adaptation Data Changes	ROC
Modify The MSCF To Allow RDA HCI To Run On The MSCF	ROC*
Compression of Digital Velocity And Reflectivity Products On RPG	ROC
Communications Monitoring to Provide Statistics For Product Sizes/Bandwidth Uses	ROC

Notes:
(1) "*" indicates a programmatic dependence by another project(s)
(2) "$" indicates new science requiring changes/upgrades by user systems to use

Considerable discussion accompanied the decisions on targeted contents for builds 7 - 9. See the resulting worksheet in Attachment 3. Below is a short summary of the discussion points.

1. MIGFA. The ROC needs to provide Lincoln Lab as much VCP12 data as possible. The ROC has concerns about the MIGFA system resource needs. The current version of MIGFA uses 150 MB of memory, the RPG has 256 MB total. After discussion of possible approaches of running MIGFA (e.g., additional SUN processor, use of MSCF or BDDS processors), the decision was made to target MIGFA Phase 1 for Build 8, or no earlier than the RPG processor upgrade. (It is possible that with this delay that phases 1 and 2 might be implemented at the same time.) The FAA is planning to fund Lincoln Lab MIGFA development for two more years in this initial development. Dave Smalley needs the Sun Solaris version of RPG Build 5. He will install and time the current version of MIGFA with the debug turned off. (Action Item 1003-7) Dave will report his preliminary findings to the ROC with the caveat that the numbers don't represent the final version. By the end of the calendar year when the MIGFA software is stable, Bill Bumgarner will ensure the necessary MIGFA software is sent to the ROC to allow the ROC to integrate MIGFA into

the latest engineering build and start some sizing and performance timing tests under full load with realistic RPS lists. (Action Item 1003-8) Dave will attempt to have the product available in the generic format by the end of the year. Bob Saffle reported considerable forecaster interest in using MIGFA output during a MIGFA workshop at the Sterling, VA WFO a couple of years ago. The SREC requested a TAC recommendation on MIGFA implementation before the integration work begins. Bill Bumgarner stated that if the MIGFA will not be implemented until Build 8, the FAA needs to know what processor platform to target. The SREC recommendation is for the FAA to target a PC LINUX platform. The version of MIGFA turned over for build 8 will be tuned to provide at least the sensitivity similar to the MIGFA running on the TDWR. At this time Lincoln Lab doesn't know if they will have the more sensitive NWS version available at that time so it may be delivered in Build 9.

2. Porting The Baseline Software To A PC/LINUX Platform. The triagencies will target Build 8 for replacing of the RPG SUN hardware with a faster, larger system based on a PC running LINUX. The scheduled release date of Build 8, end of September 2005, may be problematic. The FAA expressed interest in implementing MIGFA on the ORPG but could not offer any firm computer resource numbers at this time. Once a baseline PC LINUX version is available, Lincoln Lab will migrate MIGFA to that platform and run timing tests. The ROC will integrate a stable but not final version of MIGFA into an engineering drop, probably build 6.x, in order to size a PC necessary to run all current algorithms and MIGFA. If the cost for an upgrade is too great, the FAA will have several options: 1)implement MIGFA on ORPG PC LINUX clones at selected sites using direct base data feed with products only available for FAA use; 2)add a PC LINUX at selected sites as a distributed processor to the baseline SUN or PC LINUX systems, thereby making the MIGFA product available to all agencies and the general public; 3) share costs with the NWS to upgrade selected sites to run a larger single PC LINUX ORPG to run MIGFA. There were numerous discussions about what is best for the ROC in areas of CM and documentation but there was no final decision at this time. The funding for the processors is in FY05 (NWS), FY06 and FY07 (DOD), and yet to be budgeted by the FAA. Rich Vogt stated that the ROC needs to begin system engineering in the next 6 months to be ready to spend FY05 funds for a new processor.

3. Preparation For Porting The Baseline Software To A PC/LINUX Platform. Bill Armstrong stated software engineering plans to do training and planning on PC/LINUX in the Build 6 time frame and continue to prepare to be ready for deploying hardware for Build 8. The ROC will baseline their ORPG PC LINUX version without the communication part and deliver to OS&T for distribution. (Action Item 1003-9) Lincoln Lab will use this software to set up a test system. Once the ROC has timed and sized a system running MIGFA, Lincoln Lab will buy an identical system for their own timing tests and development. Lincoln Laboratory wants to be part of the decision making process for selecting the size and performance of

the new RPG hardware. In particular, they would like to see a multi-processor PC LINUX version fielded that would allow easier, less expensive upgrades when needed.

4. Build 6. Bill Armstrong confirmed that RPG Build 6 will work with the legacy RDA and the Open RDA. The initial Open RDA software, Build 6, essentially replicates the legacy RDA capability.

5. Automated VCP Selection. There was discussion on whether to add software to return the radar to clear air mode once precipitation is no longer detected. This would reduce the frequent occurrence of the default precipitation VCP operating in clear air situations. However, the SREC agreed to not make this a part of Build 6. Rather this will be a part of the NSSL research on developing VCP selection software. Bill Bumgarner will work with ROC Applications Branch to develop a CCR for the VCP selection software. (Action Item 1003-10)

6. During the review of targeted build content (Attachment 5), the SREC decided on which algorithms/products need to have a TAC recommendation in regard to whether to deploy. ROC Applications Branch needs to check to see if EET has been briefed to the TAC. If so, please send the briefing material to the SREC members. (Action Item 1003-11)

7. The OS&T has sent the ROC a new version, dated 2 October 2003, of the “Transfer of RPG Science to the Radar Operations Center” document. There are 18 specific OS&T requests for ROC action. There was agreement that we need to complete this initial version of the document by the end of the year. (Action Item 1003-12) The SREC members agreed that their signature level will be sufficient for approving this document.

October 9, 2003, SREC Executive Session
Build Content Planning Worksheet

RPG

CCR Title	**Targeted Build At Start Of Meeting**	**SREC Recommended Build**	**Comments**
Further S/W changes needed for real-time Level II network (GUI & Meta data)	6	6	
Rapid Update for Meso Algorithm (Phase 2, Tracks & Trend Display)	6	6	
Data Quality Algorithm (DQA) Improvements	7	7	TAC Recommendation Required.
Machine Intelligent Gust Front (MIGFA) (Phase 1, gust front product at 2 sensitivity levels)	6	8	TAC Recommendation Required. Tied to RPG processor upgrade.
MIGFA (Phase 2, add refinements to DQA for MIGFA, HRVIL, HREET)	7	8 or 9	Might roll into one phase.
Range Correction Algorithm and Convective/Stratiform Separation Algorithm (CSSA)	8	8	TAC Recommendation Required.
High Resolution Enhanced Echo Top (HREET)	8	8	TAC Recommendation Required.
RDA data decompression	7	7	
ROC S/W Eng. Recommendations			
- Data Element Attributes format algorithm adaptation data	6	6	
- Reorganize comms users profile data	6	6	
- Generic Product API (phase 1)	6	6	
- ORDA Development Changes	6	6	
- PC/LINUX Port (begin changes to allow a Build 8 deployment)	6,7,8	6,7,8	Software Eng. progressing
- CFC Header	6	6	
- HCI Improvements	6	6	
- Improve Auto-logging in RPG	6	6	
- BDDS updates	6	6	
- LDM changes	6	6	

- OPUP Support (Comms changes)	6	6	
- Security updates	6	6	
- Changes to accommodate TDWR data	6	6	
- O/S patches	6	6	
- CISCO IOS upgrades	6	6	
- Level III on-site functionality removal	7 or 8	6	An adaptable parameter change only, no code removal at this time. ROC CM to write a CCR.
- Performance tool upgrades	6	6	
- Complete generic product format implementation	7 or 8	7 or 8	
- Modify HCI (pathfinding work on JAVA use and cost-benefit analysis)	7 or 8	7 or 8	JAVA deployment NET Build 9
- Work on distributed processing	7 or 8	7 or 8	
- Implement improved data management, Phase 2	7 or 8	7 or 8	
- New capabilities for tools and environments	7 or 8	7 or 8	
Filtered SCIT	7	7	TAC Recommendation Required.
Snow Accumulation Algorithm	6	6	TAC Recommendation in August 2000. An AI to check performance with EPRE and VCP12
Recombine ORDA 0.25km Reflectivity Data	7	7	TAC Recommendation Required.
Recombine ORDA 0.5 degree sampled data	7	7	TAC Recommendation Required.
Save & Restore Adaptation Data improvements	6	6	
Modify MSCF - to allow RDA HCI to run on the MSCF	6	6	
Enhanced RDA data simulation (test tools)	7 or 8	7 or 8	
Software & scripts needed for use on console port	7 or 8	7 or 8	Can follow the hardware modification.
Compress digital velocity and reflectivity products at RPG	6	6	

Communications Monitoring to provide statistics for product sizes/bandwidth used		6	

ORDA

CCR Title	Targeted Build At Start Of Meeting	SREC Recommended Build	Comments
0.25 km reflectivity	7	7	TAC Recommendation Required for replacement products.
0.5 degree sampling	7	7	TAC Recommendation Required for replacement products.
RV mitigation technique	8	8	TAC Recommendation Required. Phase coding, staggered PRT are possible approaches.
RDA-RPG Required communication changes, including compression	7	7	TAC Recommendation Required.
Range over sampling	8 or 9	8 or 9	TAC Recommendation Required.
Full power spectrum at each range bin	8 or 9	8 or 9	TAC Recommendation Required.
Clutter Mitigation Enhancements	8	8	TAC Recommendation Required. AKA: Separate data streams (filtered and unfiltered); and base data with multiple clutter filters and SNR thresholds
Doppler data to end of 2nd trip	7	7	TAC Recommendation Required. Greg Cate to obtain information on whether if available in initial baseline.
Doppler data during Surveillance/Reflectivity scans		7	TAC Recommendation Required.

OPUP

CCR Title	Targeted Build At Start Of Meeting	SREC Recommended Build	Comments

Snow Accumulation Algorithm	6	6	
Decompression software for high resolution products	6	6	

Open Action Items Resulting From The
December 2001, April 2002, November 2002, April 2003
And October 2003 SREC Meetings
(Status Of Action Items Open At The Start Of The October 2003 SREC
And Assigned During The October 2003 SREC Meeting)
As Of 29 October 2003

1201-7. Action Officer: Bill Armstrong. Develop a short, 2 pager, description of the concept of use and requirement for placing Open RPG software on a PC platform. Include how this fits in with the other priorities for ROC software work.
Suspense: 31 January 03. Changed to fall 2003 SREC meeting at the April 2003 SREC meeting.
Status: **Open** At the October 2003 SREC meeting the agencies confirmed the need for this information to help plan their budgets and development work. The milestones were changed to: draft for ROC coordination by 10/17/03 and release to agencies for comment by 10/31/03.

0402-1. Action Officer: Bob Saffle. Develop a cost estimate, test objectives, concept of operations, and concept of support for placing Open RPG clones in the field (2 per NWS CONUS region). The systems will be used for field tests of proposed WSR-88D RPG algorithms.
Suspense: 31 January 03. Changed to fall 2003 SREC meeting at the April SREC meeting.
Status: **Open.** Prototype test at Roanoke, VA site for validation of identification of clutter and EPRE completed. At the October 2003 SREC meeting Bob Saffle confirmed the need for this information and the suspense was moved to the spring 2004 SREC meeting.

0402-2. Action Officer: Tim Crum. (1) Ensure discussion of the "field tests" mentioned in action item 0402-1 is included in the fall TIM agenda. (2) Ensure the status of this effort is included in the fall SREC agenda.
Suspenses: (1) Closed. (2) Next SREC meeting. Changed to fall 2003 SREC meeting during April 2003 SREC. Status: **Open** At the October 2003 SREC meeting Bob Saffle confirmed the need for this information and the suspense was moved to the spring 2004 SREC meeting.

0402-5. Action Officer: Bill Armstrong. (1) Lead a meeting with the agency implementers (Bill Bumgarner, Chris Dietz, Pete Pickard, Jon Roe, and Mike Istok) within 30 days to better define the implementor-to-integrator interface. (2) Complete the documentation of the process by the next SREC meeting.
Suspenses: (1) 11 May 02 and (2) Next SREC Meeting.
Status: (1) Closed with April 24 and 25 meetings at NWS HQ and June 14 VTC. **(2) Open**. The NWS HQ staff sent an updated draft of the document to ROC Software Engineering on 10/2/03 and asked for comments and input. At the October 2003 SREC we agreed: (1) updates to this document need to be briefed at future SRECs; and (2) Tim Crum is to work with NWS HQ and the ROC staff to get this version agreed to by

12/31/03. The SREC agreed that the document can be signed by the agency SREC voting members to culminate the process.

0402-9. Action Officer: Cheryl Stephenson. Develop a CCR, with OS and OS&T coordination, to state the requirement for the addition of status messages to Level III products transmitted electronically. This will facilitate the transmission of the status messages to the NCDC archives when Level III data are sent to the NCDC electronically for archiving.
Suspense: 1 June 02. Changed to 1 June 2003 at the April 2003 SREC.
Status: **Open**. The draft is ready and will be submitted by 11/15/03.

0402-10. Action Officer: Rhonda Scott and Bill Armstrong. Provide the SREC with a recommendation on whether the DQA and/or REC output should be used to remove AP/clutter from the composite reflectivity and other products. The agencies would like to see the results of testing.
Suspense: Fall SREC Meeting. Changed to spring 2004 SREC meeting at the April 2003 SREC.
Status: **Open**

0402-17. Action Officers: Bob Saffle and Mike Spaulding. Determine the agency requirements for the proposed Blockage Algorithm to provide products suitable for on-site display of the blockage map the algorithm generates for new VCPs. Coordinate the results with the FAA focal point.
Suspense: Next SREC. Changed to 1 June 2003 at April 2003 SREC.
Status: Closed. An option is to display this product on the MSCF and use the MSCF printer. At the October 2003 SREC, the agencies agreed to close this action. The ROC can provide the files to any site that requests them. If the DOD or NWS wants the capability, they will submit a request for change. The ROC has sent sites color hard copies of their occultation data in the past.

1102-02. Action Officers: Greg Cate, Bill Armstrong, with tri-agency participation. Develop a strategy for synchronizing ORDA and RPG builds.
Suspense: Next SREC. Changed to fall 2003 SREC at the April 2003 SREC.
Status: Closed by presentation at October 2003 SREC meeting.

1102-03. Action Officers: Greg Cate. Acquire documentation of Sigmet RVP8 algorithms.
Suspense: 31 December 2002. Changed to 1 June 03 at the April 2003 SREC.
Status: Closed. Greg Cate stated the government bought the IRIS software. The agencies are looking for algorithm enunciation language (AEL) type information. At the October 2003 SREC meeting Greg Cate stated that the AEL is not available. However, the agencies can go to the Sigmet home page (http://www.sigmet.com/) for information about ongoing nonrecurring engineering.

1102-04. Action Officers: Greg Cate and Mike Istok. Perform

triagency requirements analysis for the 26 possible ORDA enhancements.
Suspense: Next SREC. Changed to fall 2003 SREC at the April 2003 SREC.
Status: Closed. Revised list of ORDA enhancements reviewed and agreed to at 10/7/03 Technical Interchange Meeting.

1102-07. Action Officers: Capt Dustin Evancho. Determine a benchmark figure for the fastest VCP that the system can support, for user systems requirements analysis.
Suspense: Next SREC. Changed to fall 2003 SREC at the April 2003 SREC. Changed to spring 2004 SREC meeting at the October 2003 SREC. The agencies agree this information is needed.
Status: **Open**

1102-09. Action Officer: Mike Istok. Provide a process for controlling software used for field testing.
Suspense: 31 January 2003. Changed to fall 2003 SREC at the April 2003 SREC.
Status: Closed. At the October 2003 SREC the agencies agreed to close this action since it is a process detail that can be a part of the 0402-2 action item.

1102-10. Action Officers: Bill Armstrong. ROC software engineering will arrange a meeting to discuss RPG build testing (as requested by Bill Bumgarner and Mike Istok). Tri-agency reps (Bumgarner, Istok and Spaulding will be notified) will be invited to participate - as will representatives from across ROC functional areas.
Suspense: 31 December 2002. Changed to 1 June 2003 at the April 2003 SREC.
Status: Closed. See the response to Action Item 0403-3 for the closure information.

0403-1. Action Officer: Bill Armstrong. Schedule and lead a technical interchange meeting (TIM) to educate potential users of the new RPG system utilization tools, including throughput.
Suspense: TIM completed by 1 June 03. Changed to 15 December 2003 at the October SREC meeting.
Status: **Open** At the October 2003 SREC meeting, the agencies reconfirmed the importance of this action. Bill Armstrong will schedule a TIM to discuss the Build 5 System Resource Utilization report and tools/methodology used. This will be scheduled for late November or 1st week of December - after the Full Load test results are analyzed and the System Resource Utilization report is compiled and distributed.

0403-2. Action Officer: Bill Bumgarner. (1) Set up and lead a conference call(s) to discuss requirement for 9-month cycle and software hand over dates. (2) Present results to next SREC meeting.
Suspenses: (1) 1 July 03 and (2) Fall 2003 SREC.
Status: Close. At the October 2003 Bill Bumgarner, initiator of the action item, agreed this action can be closed at this time.

0403-3. Action Officer: Major Mike Miller. (1) Set up and lead a

conference call(s) to discuss concerns over return on investment of operational and beta testing. (2) Present results to next SREC meeting.
Suspenses: (1) 1 July 03 and (2) Fall 2003 SREC.
Status: Closed. A triagency VTC, hosted by the ROC, was held on 3 September 2003. Major outcomes: more work on concept of operations needed and earlier WDTB involvement, more attention to impacts on GUIs earlier in the development and implementation cycle needed, more Operations Branch involvement in IRRs, and a need for more Integration Reviews hosted by ROC Engineering.

0403-4. Action Officer: Capt Dustin Evancho. Organize a working group to define a plan of action to help developers know what ICD changes (RDA-RPG and RPG-display systems) are going to take place, up through dual polarization. The ROC should lead the working group.
Suspense: 1 July 03. Changed to 31 December 03 and spring 2004 SREC at the fall 2003 SREC.
Status: **Open** At the October 2003 SREC the agencies agree this information is needed, it will be a key prototype document. Developers, including those at NSSL working under an MOU with OS&T need to work based on an ICD for Build 7. The ROC should provide a draft of the ICD for triagency review by 31 December 2003. The approved ICD is needed by the spring 2004 SREC. ORDA Project involvement is needed to complete these action items.

0403-5. Action Officer: Tim Crum. Ensure the fall SREC has an agenda topic for the ROC and ORDA Programs to present details on the ability of the ROC to support the ORDA testing, have a detailed schedule, and planned use of ROC test, documentation, and configuration control resources.
Suspense: Fall 2003 SREC Meeting
Status: Closed. At the October 2003 SREC the ROC and NPI Program briefed their plans on this topic.

0403-6. Action Officer: Tim Crum. Submit a CCR to remove the on-site Level III requirement from the RPG.
Suspense: 15 May 03.
Status: Closed. CCR 02-00085, Eliminate RPG Archive III, is in the CM system as of 25 August 03.

0403-7. Action Officer: Tim Crum. Define the Level III and RPCCDS requirements for lower tilt data with the implementation of VCP 12 (e.g., lowest 4, all below a certain tilt angle). Document results in a CCR for tracking purposes.
Suspense: 1 June 03. Changed to 1 November 2003 at October 2003 SREC meeting.
Status: **Open**

0403-8. Action Officer: Tim Crum. Formally inform NCDC, RPCCDS, and FOS of VCP12 implementation and determine impacts and how they can be mitigated.
Suspense: 1 June 03.

Status: **Open.** These offices are aware of the upcoming change. NCDC states they are ready. I have asked FOS, RPCCDS, and NCF for status/impacts, but have not received a reply. Changed to 1 November 2003 at October 2003 SREC meeting.

0403-10. Action Officers: Ed Mahoney and Rhonda Scott. Ensure the technical documentation and training material adequately addresses the operations concept and how to use the results of VCP 121/MPDA.
Suspense: Build 5 Beta Test, January 2004.
Status: **Open**

0403-11. Action Officers: Ed Mahoney and Rhonda Scott. (1) Ensure the technical documentation and training material addresses the amount of sensitivity lost and increased error of estimates of data produced by VCP 12.
Suspense: 1 June 03. Changed to Build 5 Beta Test, January 2004, at the October 2003 SREC.
Status: **Open**

0403-12. Action Officer: Rex Reed. Brief the fall SREC on interim results of ROC evaluation of Sigmet ORDA enhancement capabilities that come with the system.
Suspense: Fall 2003 SREC.
Status: Close. Based on discussions at the October 2003 SREC ongoing discussions on this topic are needed at future SRECs.

0403-13. Action Officer: Tim Crum. Write a CCR for the removal of the legacy mesocyclone algorithm in the Build 7 time frame.
Suspense: Fall 2003 SREC.
Status: Closed. Based on discussions at the October 2003 SREC meeting, the agencies will raise this issue when they are more sure of the requirement to delete the old algorithm.

0403-14. Action Officer: Chris Dietz. (1) Obtain information on the disk IO for the RCA. (2) Provide a formal OHD-OCWWS response on why the RCA Phase 1 is needed so quickly (i.e., using baseline software to evaluate algorithm performance and using Fortran code for a new algorithm). (3) Commit to implementing the 'C' version of the algorithm in Build 6.
Suspense: (1) RCA DAR, June 2004. (2) 1 June 03. (3) 1 June 03.
Status: (1) Recommend closure. This performance metric is part of the software implementation process and a part of the DAR. (2) Completed. On 24 April 03 the NWS requested the RCA not be included in the schedule for builds 5 or 6. (3) Closed. On 6 May 03 the OHD stated the RDA, when implemented will be written in 'C.'

0403-15. Action Officer: Tim Crum. Ensure the fall 2003 SREC agenda contains a presentation on MIGFA system resource consumption statistics for the RPG if the FAA still targets Build 6 for implementing Phase 1.
Suspense: Fall 2003 SREC meeting.
Status: Closed. Presentation made at October 2003 SREC. Lincoln Labs

is still working to improve the performance of the MIGFA. Also, based on discussions, it is likely the insertion of MIGFA into the baseline will be after the update of the RPG processor.

0403-16. Action Officer: Chris Dietz. Ensure the next RCA DAR contains a presentation by OHD on appending AFA and VPR to DSP and DPA products.
Suspense: Next RCA DAR, June 2004.
Status: Closed. This action item is overcome by events. With the re-planning of RCA and a recent implementation approach identified, the AFA and VPR data will no longer be appended to DSP and DPA. Design issues will be addressed at the RCA DAR in June 2004.

0403-18. Action Officer: Bob Saffle. Assemble a triagency meeting to reach a consensus on the priority list of the 27 ORDA enhancements.
Suspense: 1 Aug 2003.
Status: Closed. Revised list of ORDA enhancements reviewed and agreed to at 10/7/03 Technical Interchange Meeting.

0403-19. Action Officer: Lt Ron Fehlen. Develop a plan on how to develop and evaluate the proposed two ORDA data stream enhancement. ROC, NPI, and NSSL resources could be used to accomplish this task.
Suspense: 1 September 2003.
Status: Closed. This action assumed by Bob Saffle and Greg Cate at the 10/7/03 Technical Interchange Meeting. They will prepare a plan for a “fly off” of the Lincoln Lab, NCAR/NSSL, and Sigmet approaches to reduce nonmeteorological returns and still meet hydrology needs.

0403-20. Action Officers: Cheryl Stephenson and Mike Istok. Develop a list of Build 5 dependencies to assist triagency managers understand the inter dependencies to successfully accomplish Build 5 on schedule.
Suspense: 1 May 2003.
Status: Closed. The October 2003 SREC agreed that the biweekly meetings the ROC is having with AWIPS for OB3 and contact with WARP is fulfilling the intent of this action item.

0403-21. Action Officer: Cheryl Stephenson. Submit a change request to obtain approval of SREC recommendation to provide sites with the capability to designate the default precipitation VCP.
Suspense: 2 May 03.
Status: Closed. Software CCR NA03-12201 was written, approved, and now in Build 5.

0403-22. Action Officers: Tim Crum, Mike Spaulding, Dennis Roofe. Determine when to replace VCP11 with VCP12. Consider concerns of the agency systems.
Suspense: Fall 2003 SREC.
Status: **Open** The October 2003 SREC agreed this was still a need. Tim will coordinate the response to the May 2003 NPMC action items with the triagencies before presentation at the 11/19/03 NPMC.

0403-23. Action Officers: Tim Crum, Mike Spaulding, Dennis Roofe. Determine if their agency display systems can accept three-digit VCP

IDs.
Suspense: 1 June 03. Changed to 1 November 03 at October 1003 SREC.
Status: **Open**. Based on discussions at the October SREC meeting, the OPUP and WARP have no problem with 3-digit VCP IDs and the ITWS Program have been notified by Bill Bumgarner and others in the FAA. AWIPS OB2 displayed VCP121 data. The NWS is still trying to get confirmation from the RPCCDS managers.

0403-24. Action Officer: Bill Armstrong. Investigate what analysis has been done on the impact of 0.5 degree radial data and 0.25 km reflectivity resolution data on the performance of legacy algorithms. Then, set up a meeting with ROC Applications to discuss further actions that may be required.
Suspense: 1 June 03.
Status: Closed. NSSL is performing work under an NPI MOU to determine if legacy algorithms are impacted by recombining the data. Their work should be completed by the end of 2003. NSSL is also conducting studies on the visualization use of these high-resolution data. They will issue a report in January 2004 summarizing their findings.

0403-25. Action Officer: Rhonda Scott. Develop an approach, from a scientific perspective, for: (1) evaluating the impact of ORDA higher-resolution data on RPG legacy algorithms; and (2) for aligning ORDA data with legacy algorithms.
Suspense: 1 July 03.
Status: Closed. Response sent to SREC members on 9/5/03. Action closed during the October 2003 SREC meeting.

New Action Items From The October 2003 SREC Meeting

1003-1. Action Officer: Bill Armstrong. Provide the triagencies results of the Build 5 full-load performance test using the new performance measurement tools.
Suspense: 15 December 2003.
Status: **Open**

1003-2. Action Officer: Bill Armstrong. ROC Software Engineering and Configuration Management need to ensure LINUX training they arrange are made available to NWS HQ and other appropriate NEXRAD agency staff.
Status: **Open**

1003-3. Action Officer: Bill Armstrong. Develop the CCR and then the software for insertion into Build 6 that will provide communications monitoring to provide statistics for product sizes/bandwidth usage.
Suspense: CCR by 10 November. Software ready for integration into the Build 6 software baseline.
Status: **Open**

1003-4. Action Officer: Rhonda Scott. Have the Dale Sirman’s report on the affects of faster VCPs upon WSR-88D mechanical components

updated for the new VCP usage information presented at the SREC.
Suspense: Report to SREC members 3 weeks prior to spring 2004 SREC meeting.
Status: **Open**

1003-5. Action Officer: Mark Fresch. Run the Snow Accumulation Algorithm using EPRE and the REC, and with VCP12 data and reevaluate the accuracy of the algorithm. Report the results and the changes in the SAA performance to the SREC.
Suspense: Report to SREC members 3 weeks prior to spring 2004 SREC meeting.
Status: **Open**

1003-6. Action Officer: Mark Fresch. Provide system resource usage information for the filtered SCIT algorithm.
Suspense: Spring 2004 SREC.
Status: **Open**

1003-7. Action Officer: Bill Armstrong. Provide Lincoln Lab a copy of the Build 5 software (Sun Solaris version) via OS&T to support Lincoln Lab MIGFA testing.
Suspense: 1 December 2003
Status: **Open**

1003-8. Action Officer: Bill Bumgarner. Provide ROC software engineering with a copy of the MIGFA software for testing RPG system impacts.
Suspense: 31 December 2003.
Status: **Open**

1003-9. Action Officer: Bill Armstrong. Provide NWS OS&T and Lincoln Lab the PC LINUX version of RPG Build 5.
Suspense: 1 December 2003.
Status: **Open**

1003-10. Action Officer: Bill Bumgarner. Work with ROC Applications Branch to develop a CCR for the VCP selection software.
Suspense: 31 January 2004.
Status: **Open**

1003-11. Action Officer: Rhonda Scott. Determine if the EET algorithm has been briefed to the TAC. If so, please send the briefing material to the SREC members. Suspense: 30 November 2003.
Status: **Open**

1003-12. Action Officer: Tim Crum. Work with ROC Software Engineering Team and OS&T to complete the draft of the “Transfer of RPG Science to the Radar Operations Center”.
Suspense: 30 December 2003.
Status: **Open**

People Attending/Participating in the
October 8 and 9, 2003 SREC Meeting

FAA
Courtney Clifford
Tom Jenkins
Bill Bumgarner
Cam Tidwell
Doug Erickson
Rick Mattox

NWS
Greg Cate
Roger Hall
Cee Cee Hennigh
Pete Pickard
Mike Istok
Dennis Miller
Melanie Taylor
Brian Klein
Christine Dietz
Bob Saffle
Warren Blanchard
Eric Howieson

DOD
Mike Spaulding
Major Beberwyk

ROC
Rich Vogt
Mark Fresch
Tim Crum
Cheryl Stephenson
Captain Rhonda Scott
Major Mike Miller
Rex Reed
Doug Martindale
Zack Jing
Ryan Solomon
Randy Steadham
Bill Armstrong
Captain Dustin Evancho
Ed Berkowitz
Sallie Ahlert
Ron Guenther
Rich Ice
Steve Smith

Invited Guests
Mike Jain - NSSL
Greg Stumpf - NSSL
Joe Baalke - WDTB
Kurt Hondl - WDTB
Bob Macemon - ORDA/RSIS
Betty Bennett - Lincoln Lab
Dave Smalley - Lincoln Lab